

Abstract of the Disclosure

A memory management apparatus and method for storing data in units of various packet sizes in appliances utilizing memory devices are provided. The memory allocation apparatus includes data memory which includes a plurality of data blocks, each of which includes a plurality of sub data blocks having a predetermined size, and when there is a request for allocating memory space of a variable size, allocates memory space in units of any one of the sub data blocks and the data blocks, a free list memory which manages a free memory space of the data memory as at least one or more lists, and registers that store head location information and tail location information of the list.